

## CLAIMS

1. Modulation scheme for a NRZ signal transmitted via a DWDM transmission line with alternating left side and right side filtering for adjacent channels at the receiver,
  - Having channels with alternating channel spacing of A and B
  - Having channels for right side filtering being modulated by a modulator with positive chirp
  - Having channels for left side filtering being modulated by a modulator with a negative chirp.
2. Modulation scheme according to claim (1.), characterized in that the central frequencies of two consecutive filters (whether left-side or right-side) are equidistant in the frequency domain.
3. Transmission system with a transmitter function, a transmitting fiber and a receiver function:
  - The transmitter function comprising light sources (1), modulators (2) and a multiplexer (3)
  - The receiver comprising at least a demultiplexer (5), filters and receivers,

- Modulating the channels for left side filtering with modulators with a negative chirp and for right side filtering with modulator with positive chirp.
4. Transmission system according to claim 2 comprising at the receiver function a first demultiplexer (5) for demultiplexing the channels to be filtered left side from the channels to be filtered right side,
- Connecting the channels to be filtered by left side filtering with a compensating fiber piece of positive chromatic dispersion (8)
  - And a second demultiplexer (9) for demultiplexing all channels .
5. Transmission system according to claim 2 comprising at the receiver function a first demultiplexer (5) for demultiplexing the channels to be filtered left side from the channels to be filtered right side,
- Connecting the channels to be filtered by right-side filtering with a fiber piece of negative chromatic dispersion (8) (e.g. DCF)
  - And a second demultiplexer (9) for demultiplexing all channels .